

Mappings

- It's a data structure that holds **key->value** pairs. Its similar to Python Dictionaries, JS objects or Java HashMaps;
- **All keys must have the same type and all values must have the same type;**
- The keys can not be of types mapping, dynamic array, enum or struct. The values can be of any type including mapping;
- Mapping **is always saved in storage**, its' a state variable. Mappings declared inside functions are also saved in storage;
- The mappings advantage is that **lookup time is constant no matter mapping's size.**
- A **mapping is not iterable**, we can't iterate through a mapping using a for loop;
- **Keys are not saved into the mapping** (its a hash table data structure). To get a value from the mapping we provide a key, the key gets passed through a hashing function, that outputs a predetermined index that returns the corresponding value from the mapping;
- If we want the value of an **unexisting key** we get a **default value**;